

SIPHONAPTERA FROM CONGO BELGE.

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(With 7 text-figures.)

ON p. 165 of vol. xxv. of this periodical I described a new species of *Ctenophthalmus* discovered by the Mission Antipesteuse in the Belgian Congo. Further material of Siphonaptera obtained in connection with research on tropical diseases in the Congo Belge was recently received by Dr. H. Schouteden, Director of the Congo Museum at Tervueren, and kindly submitted to me for study, for which I have much pleasure in thanking him. The material consists of two collections, one from Dilolo and the other from Elizabethville, and contains a new species, a new subspecies and the hitherto unknown male of another species.

I. ELIZABETHVILLE, KATANGA.

The specimens were collected by Monsieur R. Dogot.

1. *Xenopsylla cheopis* Roths. 1903.

A series off *Rattus rattus frugivorus*; also on *Heliosciurus* spec. and on *Rattus r. alexandrinus*.

2. *Xenopsylla brasiliensis* Baker 1904.

A long series on *Rattus r. frugivorus*.—In the forest region of West Africa evidently the commonest flea on "rats" of various kinds; the genus is but poorly

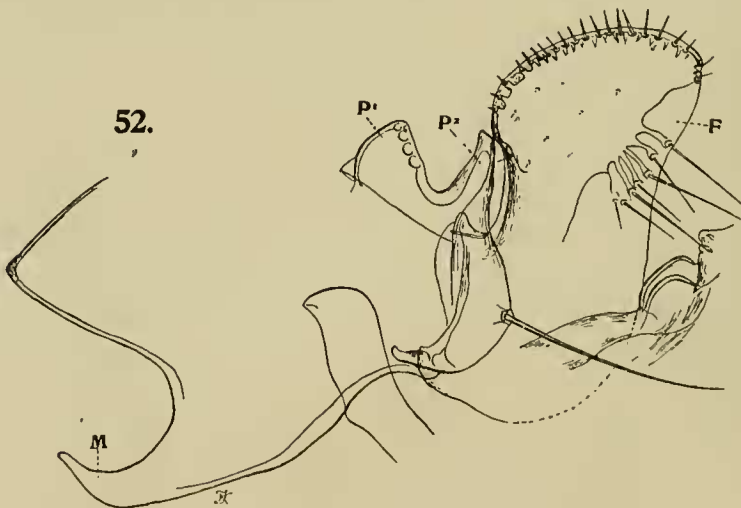


FIG. 52.—*Ctenophthalmus ansorgei catanganus* ♂.

represented in this region, whereas the species are numerous in the more open and drier countries of South and East Africa.

3. *Ctenophthalmus ansorgei catanganus* subsp. nov. (text-fig. 52).

Differs in the male only. Manubrium of elasper shorter than in *Ct. a. ansorgei* Roths. 1907, from Bihé, Angola; process P² longer, the apical sinus of the elasper being deeper; proximal margin of movable sclerite F more incurved, therefore the interspace between it and P² larger; apical portion of F less extended distad, and its dorsal margin more rounded.

A small series off *Pelomys luluæ*; also on *Heliosciurus* spec.

Mons. Dogot is to be congratulated on this interesting discovery; this subspecies approaching in the genitalia the East African *Ct. cabirus* J. & R. 1913.

4. *Dinopsyllus lypusus* J. & R. 1913.

On *Rattus r. frugivorus*; also on *Heliosciurus* spec.—Common in East Africa.

II. DILOLO, NEAR FRONTIER OF ANGOLA.

The specimens collected by Dr. Richard.

1. *Echidnophaga gallinaceus* Westw. 1875.

A small series.—The species infests mammals and birds.

2. *Xenopsylla cheopis* Roths. 1903.

On *Mastomys coucha* and *Rattus rattus*.—Not so plentiful as the next.

3. *Xenopsylla brasiliensis* Baker 1904.

Evidently quite common; on *Mastomys coucha*, *Taterona valida*, *Rattus rattus*, *Lemniscomys striatus pulchellus*, *Pelomys frater*, *Steatomys pratensis*.

4. *Ctenocephalides felis strongylus* Jord. 1925.

One ♀.—Frons short and rather strongly rounded.

5. *Ctenophthalmus ansorgei ansorgei* Roths. 1907.

2 ♂♂ on *Pelomys frater*.—As we have only one ♂ of *Ct. a. ansorgei* from the original locality, Bihé, Angola, it is not possible to know whether the very small differences between this Bihé ♂ and the two from Dilolo are individual or subspecific; they may even be due to the different methods of mounting.

6. *Ctenophthalmus atomus* J. & R. 1913 (text-fig. 53).

2 ♂♂, 1 ♀ on *Pelomys frater*.—Described from a single ♀ collected by Dr. W. J. Ansorge at Ndala Tonda, Angola. The ♀ obtained by Dr. Richard agrees with it, except that the subventral lateral sinus of VII. st. is somewhat deeper; this difference, however, is evidently due to the type having been more strongly flattened by the pressure of the coverslip.

♂. The genital armature (text-fig. 53) nearest to that of *Ct. cabirus* J. & R. 1913. The dorsal portion of IX. t. shorter, projecting less forward, recalling *Ct. evidens* Jord. 1929 and *Ct. modicus* Jord. 1933. Apical margin of elasper (Cl) with a small incision imperfectly separating the apex into two very short processes: P¹ rounded and bearing 3 or 4 long bristles, there being 2 small additional

bristles in one of the specimens with 3 long ones; P^2 apically truncate and ventrally dilated into a large rounded projection, somewhat variable in size, bearing the long acetabular bristle. Movable sclerite F apically and dorsally rounded, its posterior side ventrally strongly convex (the outline indistinct in all 3 specimens) and below apex gradually and slightly concave, dorsal margin with 9 or 10 short pale spiniform bristles, on posterior side below apex 3 or 4 longish

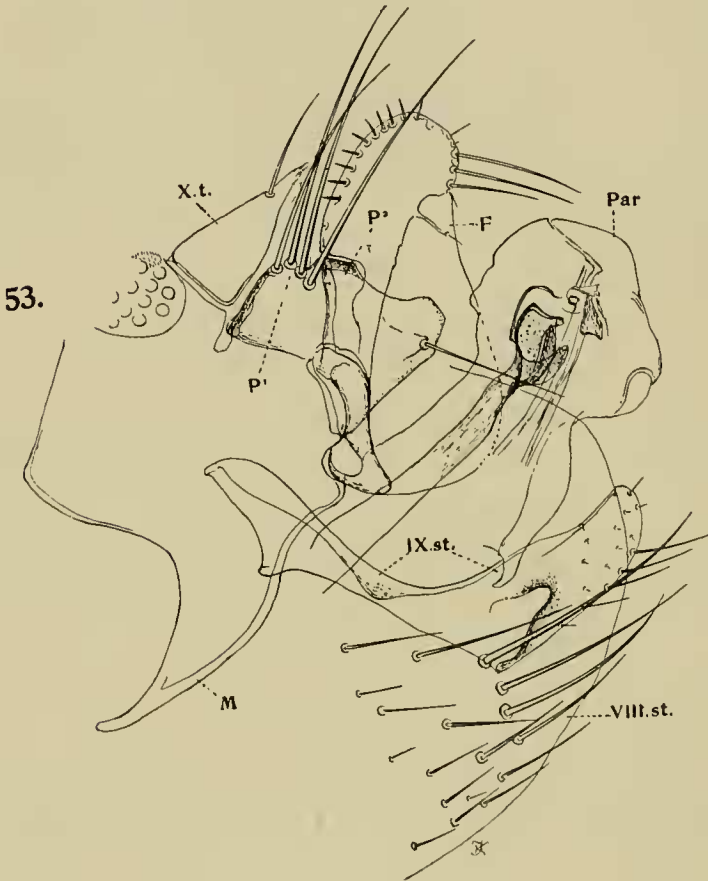


FIG. 53.—*Ctenophthalmus atomus* ♂.

bristles. Ventral, horizontal, portion of IX. st. short, somewhat variable in length, proximally broad, about $2\frac{1}{2}$ times as long as broad in middle, apex very slightly curved up, at the ventral margin 4 longish, thin, bristles. Paramere rounded, internally with a short ventral hook.

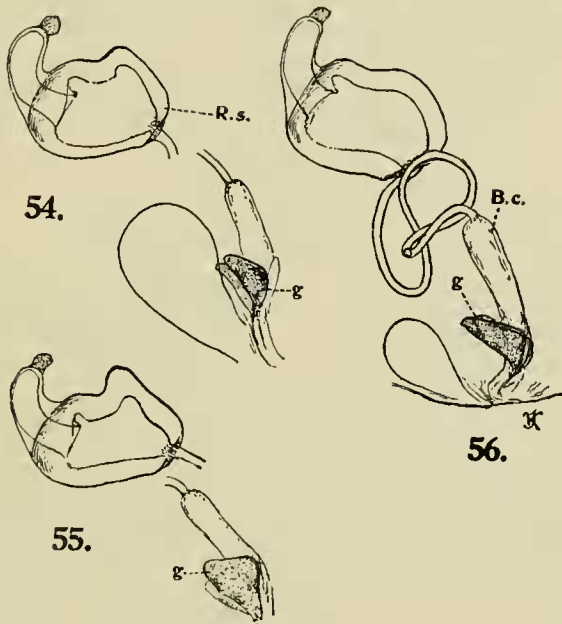
7. *Dinopsyllus lypusus* J. & R. 1913.

2 ♂♂ and a good series of ♀♀ from *Mastomys coucha*, *Taterona lobengulæ ndolæ*, *Lemniscomys striatus pulchellus*.—The short spines of the incomplete marginal combs of the abdomen (on segments II to V in ♂ and II to IV in ♀) are usually different in number on the two sides of the body, the numbers being

in one ♂ 2 + 3 (i.e. 2 on one side, 3 on the other), 3 + 3, 5 + 5, 1 + 0, in the other 4 + 5, 4 + 3, 3 + 6, 1 + 0; in the ♀ the lowest number of all these spines together being 18 and the highest 36; sometimes the 3 or 4 ventral spines of these combs are close together, forming a group widely separated from the next spine, in both sexes.

8. *Stivalius torvus* Roths. 1908 (text-figs. 54-56).

4 ♂♂, 4 ♀♀ off *Taterona valida* and *Mastomys coucha*.—The differences between *St. torvus* and *St. afer* Roths. 1908 mentioned in *Ectoparasites*, i, p. 252 (1922), hold good in this series, with the exception of the number of bristles. At



Figs. 54-56.—*Stivalius torvus* ♀

that time we had only one ♀ of *St. torvus*. Now I have before me, besides the Dilolo specimens, a small series from East Africa and the Upper Congo, and in these examples the number of bristles varies considerably. In the Dilolo ♀♀ the numbers are as follows: VIII. t. above stigma, on the two sides together, 9, 13, 13, 15; on each side of the basal abdominal sternite 27, 31, 32, 43. The brown gland at each side of the duct of the bursa copulatrix varies in shape, but is always short (g, text-figs. 54-56). The figure of the spermatheca we gave in *Ectoparasites*, i, p. 251 (1922), represents the organ in a semidorsal aspect; in a lateral view the dorsal outline is more convex near the duct end as well as near the tail end, but in none of the East African ♀♀ is the organ so strongly humped as in the Dilolo specimens and our Congo ♀, the differences probably being due to the degree of inflation. We figure here the spermatheca of two Dilolo specimens (text-figs. 54, 55) and, for comparison, of a ♀ from Machakos, Kenya (text-fig. 56). Similar individual differences occur in some Oriental *Stivalius*, as well as in some species of the American genus *Rhopalopsyllus* Baker.

9. *Stivalius richardi* spec. nov. (text-figs. 57, 58).

♂♀. Distinguished from *St. torvus* and *St. afer* by the tail ends. Nearest to *St. afer* Roths. 1908. Larger than both that species and *St. torvus*. Pronotal comb in ♂ and ♀ with 24 spines, as is the case of two of our three ♀♀ of *St. afer*, the comb consisting of 22 spines in both our ♂♂ of *St. afer*.

♂. Selerite F longer and slenderer than in the allied species, its ventral

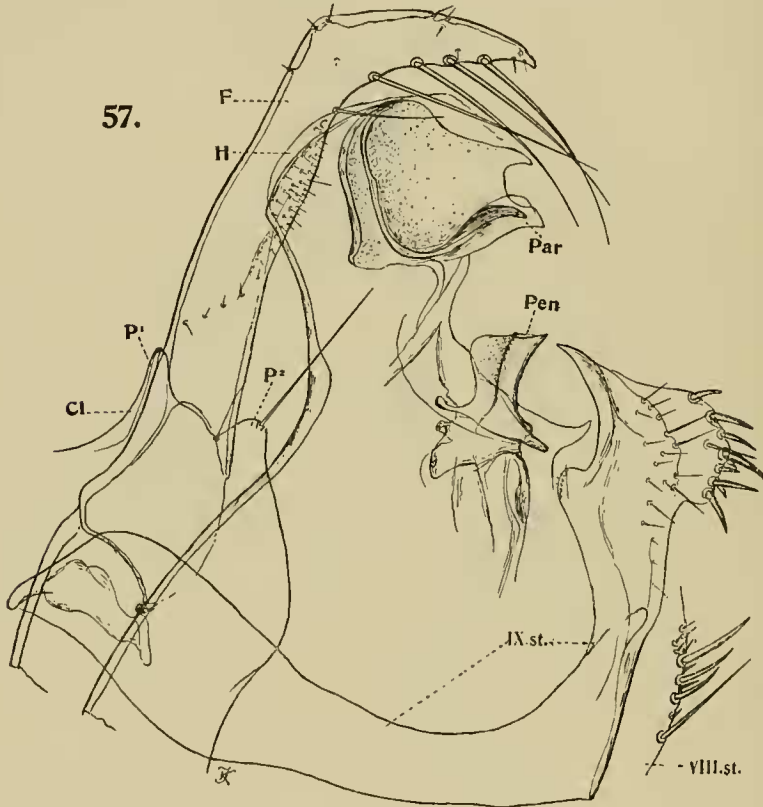
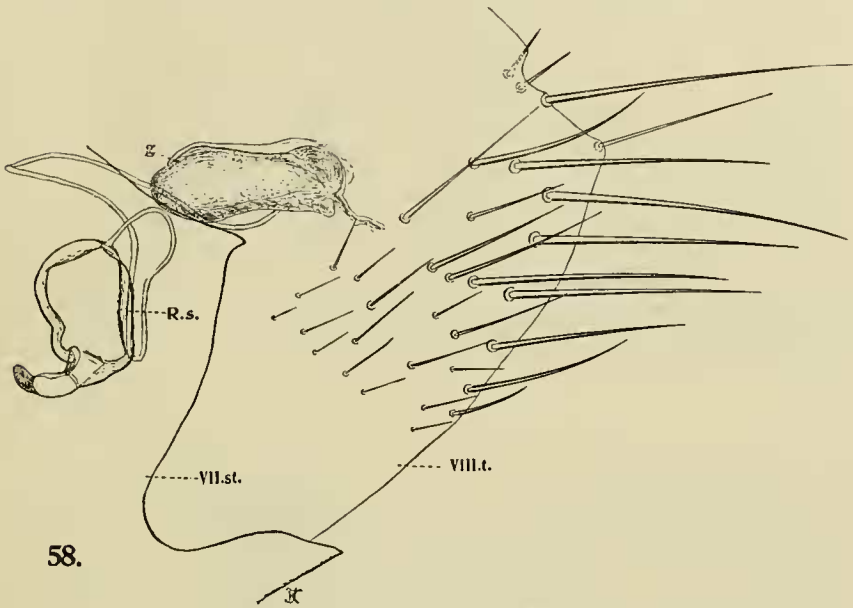


FIG. 57.—*Stivalius richardi* ♂.

margin less convex in middle. Apex of ventral arm of IX. st. acuminate, the projection curved upwards and much longer than in *St. afer* and *St. torvus*; the dorsal margin with a very distinct rounded hump bearing some minute marginal bristles. Hood (H) of paramere (Par) with upper anterior angle obtuse, not projecting forward as a hook; inner selerite rounded dorsally in anterior half only, distal portion of dorsal margin incurved, apical margin (on each side) with two hooks, which are much closer together than in the allied species, upper hook pointed, curved down, lower one obliquely truncate. End-tube of penis (Pen) obliquely truncate, its lower apical angle acute, but not prolonged as a process; dorsal surface of tube with a rather high crest which is distally rounded (lateral aspect).

♀. Marginal angle of VII. t. below antepygial bristles pointed. Upper lobe

of VII. st. (text-fig. 59) acuminate. Marginal projection of VIII. st. above the two apical bristles of the inner surface rounded. Spermatheca (R.s.) dorsally humped near tail and evenly convex between this hump and orifice. Gland (g) dorsally



58.

FIG. 58.—*Stivalius richardi* ♀.

at each side of bursa copulatrix very large, sole-shaped (in lateral aspect), as long as segment III of hindtarsus.

Length: ♂ 3.4 mm., hindfemur 0.27 mm.; ♀ 4 mm., hindfemur 0.31 mm.

One ♂ (type) off *Malacomys longipes*, one ♀ off *Steatomys pratensis*.